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Substitute for form 1449A/PTO
(Modified by BSTZ 6/30/99)INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Complete if Known

Application Number	Not Yet Assigned	TO
Filing Date	Herewith	9-20-01
First Named Inventor	Daniel E. Grupp	9-20-01
Group Art Unit	Not Yet Assigned	9-20-01
Examiner Name	Not Yet Assigned	9-20-01

Sheet 1 of 6 Attorney Docket Number 003771.P001D

U.S. PATENT DOCUMENTS

Examiner Initials *	U.S. Patent Document Number	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Filing Date if Appropriate
			MM-DD-YYYY	
✓	4,631,352	Daud et al.	12/23/1986	
✓	4,675,711	Harder et al.	6/23/1987	
✓	4,751,563	Laibowitz et al.	6/14/1988	
✓	4,837,604	Faris	6/6/1989	
✓	4,935,804	Ito et al.	6/19/1990	
✓	5,019,530	Kleinsasser et al.	5/28/1991	
✓	5,258,625	Kamohara et al.	11/2/1993	
✓	5,291,274	Tamura	3/1/1994	
✓	5,401,980	Fang et al.	3/28/1995	
✓	5,422,496	Kamohara et al.	6/6/1995	

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OTHER DOCUMENTS

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✓	P. Hadley, "Single-Electron Tunneling Devices", <u>TMR Programme Certosa di Pontignano (SI)</u> , 7/20, September 1997, 1-15	
✓	Haroon Ahmed, Kazuo Nakazato, "Single-Electron Devices", <u>Microelectronic Engineering</u> 32, (1996), pp. 297-315	
✓	John Randall et al., "Potential Nanoelectronic Integrated Circuit Technologies", <u>Microelectronic Engineering</u> 32, (1996) pp. 15-30	
✓	Bogdan Majkusiak, "Experimental and Theoretical Study of the Current-Voltage Characteristics of the MISIM Tunnel Transistor", <u>IEEE Transactions on Electron Devices</u> Vol 45 No 9 (Sept 1998) pp. 1903-1911	
✓	C.A. Mead, "Operation of Tunnel-Emission Devices", <u>Journal of Applied Physics</u> , Vol. 32, No. 4 (April 1959)	

Examiner Signature

Douglas Weller

Date Considered:

16 Feb 01

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Group Art Unit	Not Yet Assigned
Examiner Name	Not Yet Assigned

Sheet 2 of 6

Attorney Docket Number

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✓	5,475,341	Reed	12/12/1995	
✓	5,589,692	Reed	12/31/1996	
✓	5,604,154	Takahashi et al.	2/18/1997	
✓	5,612,233	Roesner et al.	3/18/1997	
✓	5,646,420	Yamashita	7/8/1997	
✓	5,646,559	Higurashi	7/8/1997	
✓	5,665,979	Takahashi et al.	9/9/1997	
✓	5,677,637	Nakazato et al.	10/14/1997	
✓	5,705,827	Baba et al.	1/6/1998	
✓	5,710,051	Park et al.	1/20/1998	

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✓	Y. Takahashi et al., "Fabrication Technique for SI Single-Electron Transistor Operating at Room Temperature", <u>IEEE Electronics Letters</u> Online No 19950063 Vol 31 No 2 (1/19/95) pp. 136-137	
✓	Kazuo Nakazato and Haroon Ahmed, "Enhancement of Coulomb blockade in Semiconductor Tunnel Junctions", <u>Appl. Phys. Lett.</u> , (7/21/95) pp. 3170-3172	
✓	R. H. Davis and H.H. Hosack, "Double Barrier in Thin-Film Triodes", <u>Journal of Applied Physics</u> , Vol. 34, No. 4 (Part 1), (4/63) pp. R64-R66	
✓	Kiyonori Kato, "Liquid helium Level Meter by Audio-Sound Detection", <u>Rev. Sci. Instrum</u> (60/7), (7/89) pp. 1343-1345	
✓	E. Tosatti and R. Martonak, "Rotational Melting in Displacive Quantum Paraelectrics", <u>Solid State Communications</u> , Vol. 92, Nos. 1-2 (1994) pp. 167-180	

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Douglas Wells

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				First Named Inventor	Daniel E. Grupp
				Group Art Unit	Not Yet Assigned
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DAK	Hiroyuki Sakaki, "Quantum Microstructure Devices", <u>Solid State Communication</u> , Vol. 92, Nos. 1-2, (1994) pp. 119-127	
✓	M. A. Reed et al., "Realization of a Three-Terminal Resonant Tunneling Device: The Bipolar Quantum Resonant Tunneling Transistor" <u>Ann Phys Lett</u> (11) (12 March 1989) pp. 1034-1036	
✓	R.J. Schoelkopf et al., "The RF-SET: A Fast and Ultra-Sensitive Electrometer", Submitted to <u>Science</u> , (12/11/97) pp. 1-6	
✓	Federico Capaso et al., "Multiple Negative Transconductance and Differential Conductance in a Bipolar Transistor by Sequential Quenching of Resonant Tunneling" <u>Ann Phys Lett</u> 53 (12) (19 Sept 1988) pp. 1056-1058	
✓	J.L. Huber et al., "An RTD/Transistor Switching Block and its Possible Application in Binary and Ternary Adders", <u>IEEE Transaction of Electron Devices</u> Vol. 44 No. 12 (12/97) pp. 2149-2153	

Examiner
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Douglas Wills

Date
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		Group Art Unit	Not Yet Assigned
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P.fle	Robert F. Service, "MICROELECTRONICS" "IBM Puts Fast Chips on a New Footing", <u>Science</u> , Vol. 281, (8/14/98) pp. 893-894	
<input checked="" type="checkbox"/>	David Berman et al., "Single-Electron Transistor Research", http://nanoweb.mit.edu/annual-report/14 , (downloaded 10/7/98), pp. 1-4	
<input checked="" type="checkbox"/>	Mikko Paalanen, "Nanophysics-A New Frontier of Science", http://www.edita.fi/lehdet/polysteekki/297/nanop.html , (downloaded 10/7/98) nn 1-5	
<input checked="" type="checkbox"/>	Steven P. Beaumont, "III-V Nanoelectronics", <u>Elsevier Science B.V.</u> , <u>Microelectronic Engineering</u> 32, (1996) pp. 283-295	
<input checked="" type="checkbox"/>	P.K. Vasudev and P.M. Zeitzoff, "Si-ULSI with a Scaled-Down Future", <u>IEEE Circuits & Devices</u> , (1998), pp. 19-29	

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<i>Dhe</i> ✓	S.J. Wind et al., "Scaling Silicon MOS Device to Their Limits", <u>Elsevier Microelectronic Engineering</u> 32, (1996) pp. 271-282	
✓	Naoki Yokoyama et al., "A New Functional, Resonant-Tunneling Hot Electron Transistor (RHET)", <u>Japanese Journal of Applied Physics</u> Vol. 24 No. 11 (11/85) pp. 1853-1 854	
✓	Victor Ryzhii et al., "Resonant-Tunneling Bipolar Transistors with a Quantum-Well Base", <u>Japanese Journal of Applied Physics</u> , Vol. 35 No. 10 (10/96) pp. 5280-5283	
✓	Serge Luryi and Federico Capasso, "Resonant Tunneling of Two-Dimensional Electrons Through a Quantum Wire: A Negative Transconductance Device", <u>Ann. Phys. Lett.</u> 47 (12) (15 Dec 1985) pp. 1347-1349	
✓	J.R. Schreffer, "Symmetry of the Order Parameter in High Temperature Superconductors", <u>Solid State Communications</u> , Vol. 92, Nos. 1-2 (1994) pp. 129-139	

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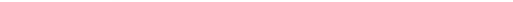
<p>Substitute for form 1449A/PTO (Modified by BSTZ 6/30/99)</p> <p>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p><i>(use as many sheets as necessary)</i></p>				<p><i>Complete if Known</i></p>	
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<i>Dho</i>	Federico Capasso and Richard A. Kiehl, "Resonant Tunneling Transistor with Quantum Well Base and High-Energy Injection: A New Negative Differential Resistance Device" . <i>J. Appl. Phys.</i> 58 (3) (1 April 1985) pp. 1366-1367	
	A.C. Seabaugh et al., "Resonant Transmission in the Base/Collector Junction of a Bipolar Quantum-Well Resonant Tunneling Transistor" <i>Ann. Phys. Lett.</i> 59 (26) (23 Dec 1991) pp. 3413-3415	
<i>MR</i>	Ming C. Wu et al., "Quantum-Switched Heterojunction Bistable Bipolar Transistor by Chemical Beam Epitaxy", <i>Appl. Phys. Lett.</i> 57 (2) (9 July 1990) pp. 150-152	
<i>C</i>	Alan C. Seabaugh et al., "Pseudomorphic Bipolar Quantum Resonant-Tunneling Transistor", <i>IEEE Transactions on Electron Devices</i> Vol. 36 No. 10 (10/89) pp. 2327-2334	
<i>C</i>	D. Ali and H. Ahmed, "Coulomb Blockade in a Silicon Tunnel Junction Device", <i>Appl. Phys. Lett.</i> 64 (16), (18 April 1994), pp. 2119-2120	

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